

B.Tech
2018
4th Sem.
ROLL NO-

B.TECH FOOD TECHNOLOGY
IV Semester Examination 2018
Course Code-BFTC-401
Course Title: Food Engineering

Time: 3 Hours

Max.Marks:70

- 1. It is compulsory to answer all the questions of Section-A*
- 2. Answer any four question in Section-B*

Section A(5*6=30)

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| Q1. | Explain the importance of heat transfer in food processing industries. | (6M) |
| Q2. | Discuss the principles and classification of thermal processing. | (6M) |
| Q3. | Differentiate between the freezing and thawing process. | (6M) |
| Q4. | Discuss the importance of Precooling and Cold storage. | (6M) |
| Q5. | Write a short note on the different methods of freezing. | (6M) |

Section B(4X10=40)

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| Q1. | Define Fourier's law of heat conduction and derive its equation. | (10M) |
| Q2. | Derive Plank's equation for the prediction of freezing times. | (10M) |
| Q3. | Discuss the D value, TDT, Z value and F value of thermal destruction. | (10M) |
| Q4. | Calculate the rate of heat transfer through a (3X 4 m) concrete wall. One face of 0.2m thick wall is at 22 ⁰ C and the outer face is at 35 ⁰ C. The thermal conductivity of concrete wall is 1.1 Wm ⁻¹ K ⁻¹ ? | (10M) |
| Q5. | "Freezing is an effective form of preservation". Justify. | (10M) |
| Q6. | Write short notes on:
(a) Canning process
(b) CA and MA
(c) Natural convection
(d) Pasteurization
(e) Sterilization | |